

10(6)

AUTHOR:

Aslanov, S.I. (Saratov)

U/40-22-4-4/26

TITLE:

On the Motion of a Rhombic Profile With a Velocity not Exceeding the Velocity of Sound (O dvizhenii rombovidnogo profil'ya so skorost'yu, ne prevyashchey skorost'zvuka)

PERIODICAL:

Prikladnaya matematika i mekhanika, 1958, Vol 22, Nr 4, pp 452 - 464 (USSR)

ABSTRACT:

The author investigates a gas flow which flows under vanishing angle of incidence against a rhombic profile with a velocity not exceeding the velocity of sound. Because of the symmetry of the flow one can restrict oneself to a half plane in the calculation of this problem. In the flow around the rhombic profile the velocity of sound is occasionally exceeded on the top of the rhombus and that along a parabolic curve. For subcritical flow the supersonic range is finite. It can continue, however, up to infinity under increase of flow velocity. During the retransition into the subsonic range it gives rise to a compression shock at a point unknown at first.

In the literature flows of similar kind have been generally investigated only around wedge-shaped profiles. Here the equation of Tricomi is applied. In the present paper the

Card 1/ 2

On the Motion of a Rhombic Profile With a Velocity SOV/40-22-4-4/26
not Exceeding the Velocity of Sound

author proceeds similarly in calculating the flows around the rhombic profile. At first he formulates the problem by giving the starting equation for the stream function and the boundary conditions belonging to the profile. Then he approximately solves the problem starting from the rigorous initial equations. Thus it is possible to investigate the flow around a rhombic profile of arbitrary relative thickness. The solution, however, is not unique since the fulfillment of the boundary condition on the boundaries of the supersonic range is difficult. The ranges of validity of the obtained solutions are estimated. There are 10 figures and 20 references, 8 of which are Soviet, 11 English, and 1 French.

SUBMITTED: April 23, 1957

Card 2/2

ASLANOV, S.K. (Saratov); LEGKOVA, V.A. (Saratov)

Escape of a gas jet from a container of finite width. Prikl.
mat. i mekh. 23 no.1:190-193 Ja-F '59. (MIRA 12:2)
(Fluid dynamics)

ASLANOV, S. K. (Saratov)

"Wedge Shaped and Conventional Airfoils at Sonic Speeds."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics," Moscow, 27 Jan - 3 Feb 1960.

S/152/61/000/012/001/002
B126/B101

AUTHOR: Aslanov, S. K.

TITLE: Flow of liquid of varying viscosity in a round pipeline

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, no. 12, 1961, 83- 88

TEXT: This article deals with L. S. Leybenzon's problem of the velocity and temperature distributions in a steady laminar flow through a round pipeline. Frictional heat and varying viscosity are taken into consideration, and there is no temperature gradient along the axis of the pipeline. To obtain the characteristics of the flow, an approximation of the viscosity-temperature law is set up and compared with the Poiseuille formula. For this purpose, the maximum delivery velocity is expressed by the final equation

$$\frac{Q}{Q_1} = \frac{8c_2}{\frac{a}{4}c_2 + 1} ; \frac{w_{\max}}{w_{\max 1}} = 4c_2 \left(\frac{1}{\frac{a}{4}c_2 + 1} + \frac{\arctan \sqrt{\frac{a}{4}c_2}}{\sqrt{\frac{a}{4}c_2}} \right) \quad (25).$$

Q = throughput of liquid; c = const; index 1 corresponds to the flow at Card 1/3

S/152/61/000/012/001/002
B126/B101

Flow of liquid of varying viscosity ...

constant viscosity; w = rate of flow. The effect of dissipation of mechanical energy on the hydraulic resistance of the pipeline is calculated as follows:

$$\lambda = \frac{64}{Re_1} D, \quad D = \left(\frac{w_{mean}}{w_{mean_1}} \right)^2 \quad (26) \quad \text{where } \lambda = \text{coefficient of friction,}$$

D = dissipation adjustment, Re = Reynolds number, and w_{mean} = mean velocity, i. e., $w_{mean}/w_{mean_1} = Q/Q_1$. This method shows that at a constant

wall temperature there is a 2% excess of the calculated maximum velocity, whereas in the case of heat exchange with the surrounding medium, e. g., soil, water or air, the excess of maximum velocity is 9%. This proves that the effect of the dissipation factor is much stronger when heat exchange takes place. There are 1 figure, 1 table, and 7 references: 6 Soviet and 1 non-Soviet.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N. G. Chernyshevskogo (Saratov State University imeni N. G. Chernyshevskiy)

Card 2/3

S/124/62/000/006/011/023
D234/D308

AUTHOR: Aslanov, S. K.

TITLE: Supersonic gas flow from an asymmetric container
with plane inclined walls in the case of a maximum
rate of flow

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 6, 1962, 23, ab-
stract 6B116 (Tr. Kuybyshevsk. aviats. in-ta, 1961, .
no. 12, 237-241)

TEXT: A plane supersonic stream of an ideal gas flows out of an
opening between two unsymmetric planes. The aerodynamical pro-
blem reduces to the singular boundary problem of Lavrent'yev-
Bitsadze in a mixed elliptic-hyperbolic domain. The stream function
has a known singularity, is a solution of Chaplygin's equation
and is found with the aid of a series whose coefficients are cho-
sen in such a way that the boundary conditions are satisfied. Cal-
culations have shown that even a small asymmetry of the walls
leads to a strong deviation of the gas stream. [Abstracter's
note: Complete translation.]
Card 1/1

10. 1230

39042

S/124/62/000/007/005/027
D234/D308

AUTHOR: Aslanov, S. K.

TITLE: Motion of a rhomboid profile with the velocity of sound

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 7, 1962, 20, abstract 7B121 (Tr. Kuybyshevsk. aviats. in-t, 1961, no. 12, 243-258)

TEXT: The author considers the problem of sonic flow past a thin rhomboid profile at a zero angle of attack. In a paper by the author (Prikl. matem. i mekhan. 1956, 19, no. 6; 756-760; RZhMekh, 1957, no. 8, 8736) this problem was solved in the hodograph plane on the basis of the exact equation of near-to-sonic motion of a gas (Chaplygin's equation), but owing to the fact that the boundary conditions were not satisfied in the hyperbolic part of the domain the solution loses its practical value. In the paper abstracted here, the author solves the above problem as follows: In the elliptic part of the domain one looks for a solution of Chaplygin's

Card 1/2

10.1220

39043
S/124/62/000/007/006/027
D234/D308

AUTHOR: Aslanov, S. K.

TITLE: Motion with sonic velocity of a profile having a flat lower side

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 7, 1962, 20, abstract 7B122 (Tr. Kuybyshevsk. aviats. in-t, 1961, no. 12, 259-273)

TEXT: A profile having a flat lower side is placed in a sonic stream of gas at a non-zero angle of attack. The problem is solved in the mixed elliptic-hyperbolic domain of the hodograph plane, limited by the lower side of the profile and the limit characteristics beginning at the edges of the profile. The purely supersonic part of the stream, which depends on the form of the upper side of the profile, is not considered. Of the boundary conditions, the presence of a branch point on the profile, a singularity corresponding to the velocity of incident stream at infinity, and the conditions at the characteristics are essential. The investigation is based on

Card 1/2

Motion with sonic ...

39713
S/124/62/000/007/006/027
D234/D308

the exact Chaplygin equation, which is replaced by the approximate near-to-sonic Tricomi equation in the vicinity of the sonic line and in the hyperbolic part of the domain. The latter equation makes it possible to move the boundary conditions from the characteristic to the sonic line and to construct an approximate solution of the singular Lavrent'yev-Bitsadze problem for the Chaplygin equation. The boundary condition on the transition line is satisfied at separate points of the line. Considering the special case of a small angle of attack, the author neglects the supersonic zone at the rear edge and finds that the singular solution satisfying the boundary conditions in the elliptic part of the domain satisfies automatically the condition at the characteristic in the hyperbolic domain. The author concludes by presenting his considerations with respect to the incorrectness of the formulation of this problem in some investigations of Guderley and Yosikhara /Abstracter's note: Names transliterated/. This fact appears to be related to the use of approximate near-to-sonic Tricomi equation by these authors in the whole mixed domain, whereas it is valid only in the vicinity of the sonic line. /Abstracter's note: Complete translation./

Card 2/2

24.4300

S/124/62/000/010/005/015
D234/D308

AUTHOR: Aslanov, S. K.

TITLE: Near-sonic gas flow past a wedge

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 10, 1962, 24, abstract 10B122 (Uch. zap. Saratovsk. un-t, 1961, 70, 121-137)

TEXT: A thin equilateral wedge with a continuation in the form of an infinite plate is placed in a stream having large infrasonic velocity at a zero angle of attack. The flow function for this case was obtained as an expansion in Chaplygin's functions in the paper of Makki and Pek [Abstracter's note: transliterated] (Mekhanika. Sb. perev. i obz. in. period. lit. 1953, no. 5). The present paper investigates the above nearly-sonic flows on the basis of this solution. Asymptotic formulas obtained previously by the author for Chaplygin's functions are used. The velocity distribution along the wedge and the resistance coefficient of the profile are found and compared with experimental data, the agreement being satisfactory.

Card 1/2

Near-sonic gas ...

S/124/62/000/010/005/015
D234/D308

tory. Properties of corresponding curves near $M = 1$ are studied. In particular the author obtains a confirmation of the experimental result of small variation of the velocity distribution curve for a wedge when the velocity approaches that of sound. Interesting results are also obtained in investigating the variation of the form of sound curve and the magnitude of the supersonic zone. [Abstracter's note: Complete translation.] *JB*

Card 2/2

ASLANOV S. K.

Ukrayins'kyy fizichnyy zhurnal, v. 8, no. 4, Apr. 1963, 498-500.

S/185/63/008/004/015/015

15

A scientific conference devoted to problems of evaporation, combustion, and gas dynamics of dispersed systems was held at Odessa State University imeni I. I. Mechnikov from 1 to 6 October 1962.

Sixty-five papers were presented, 24 of which dealt with the theory and practice of production and stability of aerosols and the effect on these processes of various physicochemical factors; the other 41 working processes in combustion chambers of various power plants. Some of the titles were "Investigating oxidation processes of high hydrogenous fuels by oxygen from compressed air," S. S. Kramarenko; "Burring of metal suspension in hydrocarbon fuels," D. I. Polishchuk, L. P. Latonina, and V. L. Yankevich; and "Experimental investigation of two-phase flow in axially-symmetrical nozzles," G. A. Komov. Included also were discussions of the methods of solving equations of dissociating gas flow in ducts and gas dynamic calculations for jet engines, G. A. Varshavsky, E. Ya. Guber, and A. P. Kisel'ov; the formation of plane shock waves in shock tubes and passage of shock waves through a flame front, D. V. Fedoseyev, G. D. Sadamendr, and I. K. Sevast'yanova; experimental results on the flow of combustion products of a methane-oxygen mixture around cambered surfaces with diffraction of detonation waves, L. G. Gvozd'ova; the stability of a steady-state flame front S. K. Aslanov; the relationship between the flame and the diameter of a burning drop, V. O. Fedoseyev; and theoretical and experimental investigation of burning of spherical metal particles, by L. A. Klyachko.

[AS]

Card 2/2

10100

S/147/62/000/001/001/015
E191/E135

101210

AUTHOR: Aslanov, S.K.

TITLE: Motion of a double wedge profile at sonic speed
and zero incidence

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Aviatsionnaya tekhnika, no.1, 1962, 3-10

TEXT: The flow at zero incidence around a wing of infinite span having a double wedge profile in a stream of compressible gas moving at sonic velocity is considered. The pattern of flow is discussed wherein the approaching stream is retarded in front of the wedge and then accelerated reaching sonic speed once again along a curve starting at the maximum thickness point and reaching into infinity, rising rapidly in the direction normal to the flow. The supersonic region behind this curve affects the flow upstream only by its parts adjoining the sonic line. This neighbouring region is bounded by a limiting curve, the first Mach wave. The physical plane is mapped on the hodograph plane into a mixed sub- and supersonic field. The aerodynamic problem stated reduces to a singular boundary value Tricomi

Card 1/3

Notion of a double wedge profile... S/147/62/000/001/001/015
E191/E135

Mach numbers and pressure distributions computed by the present theory are compared with tests of M. Siriex, P. Golaz and P. Rebuffet (Ref.11: "Experimental Results Obtained in the Vicinity of Sonic Speed with a Wing Model of Double Wedge Profile", Comptes Rendus de l'Academie des Sciences de Paris, v.235, no.7, 1952), showing excellent agreement. The drag coefficient is computed resulting in the same type of function in terms of thickness ratio and wedge angle as obtained by K. Guderley, but with a more accurate numerical coefficient. There are 6 figures.

ASSOCIATION: Kafedra teoreticheskoy mekhaniki i gazovoy dinamiki,
Saratovskiy gosudarstvennyy universitet
(Department of Theoretical Mechanics and Gasdynamics,
Saratov State University)

SUBMITTED: February 27, 1961

Card 3/3

10, 12/10

39773
S/147/62/000/002/001/020
E031/E435

AUTHOR: Aslanov, S.K.

TITLE: The supersonic flow of a gas from an unsymmetrical vessel of finite width at maximum rate of flow

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy.
Aviatsionnaya tekhnika, no.2, 1962, 3-7

TEXT: The steady motion of an ideal adiabatic compressible gas from a vessel with parallel walls under the condition that the pressure drop is so great that maximum gas flow occurs is considered. By solving the resulting boundary value problem in a mixed region of sub- and supersonic velocities, the effect of the asymmetry of the walls on the angle of deviation of the flow from its initial direction can be explained. In the hodograph plane the stream function satisfies the Chaplygin equation

$$\psi_{\tau\tau} + \frac{1 + (\beta - 1)\tau}{\tau(1 - \tau)} \psi_{\tau} + \frac{1 - \tau/\tau S}{4\tau^2(1 - \tau)} \psi_{\theta\theta} = 0 \quad (1.1)$$

Card 1/2

40489

10-1210

S/147/62/000/003/001/007
E031/E435

AUTHOR: Aslanov, S.K.

TITLE: The sonic motion at incidence of a wing profile having a plane lower surface

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Aviatsionnaya tekhnika, no.3, 1962, 3-11

TEXT: The two-dimensional steady flow is considered of a compressible gas past a wing of infinite span which is at a small angle of incidence δ . The region of the physical plane corresponding to the flow over the lower surface of the wing becomes a mixed region of sub- and supersonic velocities in the hodograph plane. The problem can be reduced to the singular boundary value problems of S. Gellerstedt (Arkiv J.M.A.O.F., 26A, 5, 1936). The stream function $\psi(\tau, \theta)$, which is a solution of the Chaplygin equation

$$\psi_{\tau\tau} + \frac{1 + (\beta - 1)\tau}{\tau(1 - \tau)} \psi_{\tau} + \frac{1 - \tau/\tau_s}{4\tau^2(1 - \tau)} \psi_{\theta\theta} = 0 \quad (1.1)$$

Card 1/4

S/1.47/62/000/003/001/007

EO31/E435

The sonic motion at incidence ...

satisfies the conditions

$$\psi(\tau, -\delta) = \psi(\tau, \pi - \delta) = 0 \quad 0 \leq \tau < \tau_s, \quad (1.2)$$

$$\psi = 0 \quad \text{on the characteristics AE and BD} \quad (1.3)$$

$$x|_{\tau=\tau_s} - x|_{\tau=0} = l, \quad (1.4)$$

where $\tau = w^2/w_{\max}^2$, w - magnitude of the velocity,
 θ - angle the velocity makes with the x-axis, $\beta = (\kappa - 1)^{-1}$,
 κ - adiabatic index, and $\tau_s = (2\beta + 1)^{-1}$ corresponds to the
 velocity of sound [Abstractor's note: Fig.2, which shows the
 picture of the hodograph plane, does not show the points E,B.]
 The problem is solved by using in the subsonic region $\tau < \tau_s$
 the exact Chaplygin equation (1.1) and in the supersonic regions
 the approximate equation of K. Cuderley (Theorie schallnaher
 Stromungen, Berlin, 1957).

Card 2/4

The sonic motion at incidence ...

S/147/62/000/003/001/007

E031/E435

$$\psi_{\eta\eta} + \eta\psi_{\eta\eta} = 0, \quad \eta = \frac{(x+1)^{1/3}}{2} \left(1 - \frac{\tau}{\tau_s}\right). \quad (1.6)$$

In the subsonic region the evaluation of ψ and ψ_{η} for $\tau = \tau_s$ leads to the summation of divergent series, which has been previously obtained by the author (IVUZ, Aviatzionnaya tekhnika, no.1, 1962). Expressions are quoted for the velocity distribution on the lower surface. Calculations in the supersonic regions and on the upper surface of the wing can be made by the method of characteristics. An expression is given for the lift coefficient. The paper concludes with some observations of the work of G. Guderley and X.Yoshihare (Journal of the Aeronautical Sciences, v.21, no.4, 1954; v.20, no.11, 1953) and of K. Cuderley (Theorie schallnaher Strömungen. Berlin, 1957) in which it is shown that their investigations are based on an incorrect formulation of the problem. There are 6 figures.

SUBMITTED: February 27, 1961

Card 3/4 3

ASLANOV, S.K.

Sonic motion of a rhomboidal airfoil at a zero angle of attack.
Izv.vys.ucheb.zav.; av.tekh. 5 no.1:3-10 '62. (MIRA 16:7)

1. Saratovskiy gosudarstvennyy universitet, kafedra teoreticheskoy
mekhaniki i gazovoy dinamiki.

(Airfoils)

ASLANOV, S.K.

Steady-state boundaries and the stability of laminar fluid flow in a round pipe taking into account the temperature dependence of viscosity and heat transfer. Izv. vys. ucheb. zav.; neft' i gaz 6 no.1:77-80 '63. (MIRA 17:10)

1. Saratovskiy gosudarstvennyy universitet im. N.G. Chernyshevskogo.

S/170/63/006/002/002/018
B102/B186

AUTHOR: Aslanov, S. K.

TITLE: Consideration of heat exchange and temperature dependence of the viscosity in the problem of the flow of a viscous fluid between two concentric rotating cylinders

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 2, 1963, 8 - 14

TEXT: The problem of the motion of the lubricant studied by N. P. Petrov (Inzhenernyy zhurnal, 1883) is generalized and modified. The stationary flow of a viscous liquid in an arbitrary space between two rotating coaxial cylinders of infinite length is considered. Petrov had obtained an exact solution for constant viscosity ($\mu = \mu_0$) without considering the mutual effect of the frictional heat and the viscosity. Experiments showed, however, that temperature affects the viscosity considerably, so it is necessary to take into account $\mu = \mu_0 \exp[-\delta(T-T_0)]$; $\delta \geq 0$. The other thermal parameters such as the thermal conductivity are also considered to be temperature independent. By neglecting the inertial forces the fundamental equations can be built upon the Navier - Stokes equations. The problem

Card 1/2

L 14657-66 EWT(1)/ENP(m)/EWT(m)/EWA(d)/FCS(k)/EWA(1) JD

AGC NR: AT6003073

SOURCE CODE: UR/3181/63/000/015/0085/0089

AUTHORS: Aslanov, S. K.; Turapin, V. M.

ORG: Kuybyshev Aviation Institute (Kuybyshevskiy aviatsionnyy institut); Joint Scientific-Technical Conference on Problems of the Mechanics of Liquid and Gas (Kustovaya nauchno-tekhnicheskaya konferentsiya po voprosam mekhaniki zhidkosti i gaza) ⁴⁶ ₈₊₁ ^{III}

TITLE: A flow with a ^{1.55} large subsonic velocity over a plate at some angle of attack

SOURCE: Kuybyshev. Aviatsionnyy institut. Trudy, no. 15, pt. 2, 1963. Doklady kustovoy nauchno-tekhnicheskoy konferentsii po voprosam mekhaniki zhidkosti i gaza (Reports of the Joint scientific-technical conference on problems of the mechanics of liquid and gas), 85-89

TOPIC TAGS: inviscid flow, angle of attack, conformal mapping, uniform flow, stagnation flow

ABSTRACT: The inviscid flow over a flat plate of length l at an angle of attack α is analyzed in some detail. The free stream is assumed to be uniform with velocity W_0 close to the sonic velocity. The analysis is limited to the

Card 1/3

L 14657-66

ACC NR: AT6003073

bottom face of the plate. The governing equation is given by

$$\psi_{\tau\tau} + \frac{1+(\beta-1)\tau}{\tau(1-\tau)} \psi_{\tau} + \frac{1-\tau}{4\tau^2(1-\tau)} \psi_{\theta\theta} = 0$$

with the following conditions for the stream function

$$\left. \begin{array}{l} \psi(\tau, -\alpha) = 0 \\ \psi(\tau, \pi - \alpha) = 0 \end{array} \right\} 0 \leq \tau < \tau_0$$

and the three zeros for the stagnation point

$$\left. \begin{array}{l} x \\ \theta = -\alpha \\ \tau = \tau_0 \end{array} \right\} \begin{array}{l} -x \\ \theta = \pi - \alpha \\ \tau = \tau_0 \end{array} \quad \angle = l$$

The solution of the above equation is given by

$$\psi = A \sum_{n=1}^{\infty} \left(\cos n\alpha \cdot n^{\frac{2}{3}} + b \frac{\sin n\alpha}{n^{1/3}} \right) \frac{Z_{n/3}(\tau)}{Z_{n/3}(\tau_0)} \cdot \frac{\sin n(\theta + \alpha)}{1 + Bn^{1/3}}$$

where b is calculated from the branching condition on the zero streamline and A is

Card 2/3

L 14657-66
ACC NR: AT6003073

estimated from the scaling coefficient between the hodograph and the physical planes. Orig. art. has: 8 equations, 2 figures, and 1 table.

SUB CODE: 20/

SUBM DATE: none/

ORIG REF: 006

Card 3/3 *SC*

ASLANOV, S.K. (Saratov)

"Axisymmetric flows of a fluid of variable viscosity"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 January - 5 February 1964

ACCESSION NR: AP4019085

S/0170/64/000/003/0118/0120

AUTHOR: Aslanov, S. K.

TITLE: On the theoretical analysis of the oscillatory propagation of flame in tubes

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 3, 1964, 118-120

TOPIC TAGS: flame propagation, oscillatory flame propagation, flame front, acoustic gas oscillation, oscillatory combustion

ABSTRACT: The paper shows that the interaction between the periodic wave formation arising at the flame front and the natural acoustic oscillations of the gas column during the combustion of a mixture in a tube is a second-order effect. For this reason, the indicated mechanism should not be considered basic in the process of formation of the oscillatory regime of combustion. Orig. art. has 9 formulas.

Card 1/2

ACCESSION NR: AP4019085

ASSOCIATION: Gosudarstvennyy universitet im. N. G. Chernyshevskogo, Saratov
(State University)

SUBMITTED: 03Jan63

DATE ACQ: 27Mar64

ENCL: 00

SUB CODE: PH

NO REF SOV: 002

OTHER: 000

Card 2/2

ASLANOV, S.K.; KURZHUNOV, V.V.

Mechanism of the vibration mode of burning of gaseous mixtures. Inzh.-
fiz. zhur. 7 no.8:124-127 Ag '64. (MIRA 17:10)

1. Gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina, Kazan'.

L 8818-65 EPA/EPA(s)-2/EWT(m)/EPF(c)/EPR Paa-4/Pi-4/Pe-4/Pt-10 AETR/
 AEDC(b)/AFTC(p) WW/JW/RM/JXT(CZ)
 ACCESSION NR: AP404420 S/0170/64/CKO/008/0124/0127

AUTHOR: Aslanov, S. K.; Kurzhunov, V. V.

TITLE: Mechanism of oscillatory combustion of gas mixtures

SOURCE: Inzhenerno-fizicheskii zhurnal, no. 8, 1964, 124-127

TOPIC TAGS: combustion, combustion stability, oscillatory combustion

ABSTRACT: Oscillatory combustion of homogeneous gas mixtures in tubes was studied experimentally and theoretically. According to the theory proposed, oscillatory combustion is induced when the harmonics of the natural frequency of the gas column (ω_n) are in resonance with the oscillations caused by hydrodynamic instability

$\frac{2\pi}{\lambda} v_1$, which condition is expressed by the formula: $\omega_n = v_2/\lambda, = v_1 \cos \alpha/\lambda$,

where v_1 is the fresh gas velocity and α is the angle between the tangent at a point of the curved flame surface and the tube axis. High-speed motion pictures and schlieren photography of the combustion of CO, C_2H_6 , and C_2H_2 mixtures

Card 1/2

L 8818-65
ACCESSION NR: AP4044,20

with air in semienclosed tubes of different length showed that the calculated wavelength λ_r was several times shorter than the experimental wavelength λ_r . This is attributed to the fact that in the calculations mean velocities were used which are much smaller than actual velocities. However, the ratios $\lambda_{exp}/\lambda_{calc}$ were almost identical at different frequencies, which fact is considered to be evidence of the correctness of the proposed mechanism. It was also found that with decreasing pressure the wavelength increases and the frequency decreases. Orig. art. has: 2 figures and 2 formulas.

ASSOCIATION: Gosudarstvennyy universitet imeni V. I. Ul'yanova-Lenina, Kazan
(State University)

SUBMITTED: 26Mar64

ATD PRESS: 3107

ENCL: 00

SUB CODE: PP

NO REF SOV: 002

OTHER: 002

Card 2/2

L 10393-65 EWT(1)/EWP(m)/EPR/EWA(1) Pd-4/PE-4/P... AFIC(a)/ESP(gu)/AFNL/
AFETR/SSD/AEDC(a)/ASD(f)-2/AFMDC/ESD(1)/RAEM(t) WWH

ACCESSION NR: AP4047446

S/0170/64/COO/009/0088/0091

AUTHOR: Aslanov, S. K.

TITLE: Effect of temperature conditions on stability of rotating fluid flow

SOURCE: Inzhenerno-fizicheskii zhurnal, no. 9, 1964, 88-91

TOPIC TAGS: stability condition, stability criterion, boundary layer, inviscid flow, Reynolds number, flow between rotating cylinder

ABSTRACT: The stability of fluid flow between rotating coaxial cylinders at different temperatures is considered. The velocity and temperature profiles for the flow are quoted from the author's previous work (IFZh, No. 2, 1963) where the following approximation is made for the viscosity,

$$\mu = \mu_0 \exp[-\delta(T - T_0)]$$

The equations are nonlinear with three branch-solutions

$$2 \left(\frac{u_0 - \xi_0}{A \xi_0} \right)^2 > \left| 1 - \frac{1}{\xi_1^2} \right|, C_2 < 0;$$

$$2 \left(\frac{u_0 - \xi_0}{A \xi_0} \right)^2 < \left| 1 - \frac{1}{\xi_1^2} \right| \begin{cases} C_2 > 0 \text{ при } \xi_1 > 1, \\ C_2 < 0 \text{ при } \xi_1 < 1. \end{cases}$$

Cord 1/3

L 10393-65

ACCESSION NR: AP1047416

where $\xi = r/R_1$, $\xi_0 = R_2/R_1 > 1$, $\xi_1 = \xi_0 \exp(-\theta_0/2)$, $\epsilon_0 = \delta(T_1 - T_0)$ and

$$A = \pm \frac{2}{\omega_1 R_1} \sqrt{\frac{\Gamma \lambda}{\mu_0 \delta}}$$

The stability analysis is made for the limiting case of very large Reynolds numbers with the Rayleigh-Synge inviscid stability criterion

$$\frac{d}{dt}(v r)^2 > 0 \text{ or } u \frac{d}{dt}(u \xi) > 0,$$

which for this particular problem becomes

$$\left[C_2 + AC_1 \ln(C_2 + C_1 \sqrt{a} \ln \xi) \right] \left[C_2 + AC_1 \ln(C_2 + C_1 \sqrt{a} \ln t) + \frac{AC_1^2 \sqrt{a}}{2 \ln^2(C_2 + C_1 \sqrt{a} \ln \xi)} \right] > 0 \text{ for } 1 < t < t_0.$$

For the case of the cylinders rotating in opposite directions, the first bracket on the left hand side of the above expression changes sign within the flow. For cylinders rotating in the same direction, the sign on the bracket remains the same.

Card 2/3

10393-65

ACCESSION NR: 1P4047446

The stability criterion for this latter case is written, and it is shown that a minimum exists only at $A < 0$, $\eta_0 < \xi_0$ ($\omega_2 < \omega_1$) at the point $\xi = \xi_n$ and

$$\ln(C_1 + C_2 \sqrt{a} \ln \xi_n) = \frac{1}{C_1 \sqrt{a}} (C_2 \sqrt{a} > 1).$$

For the case corresponding to $C_1 \sqrt{a} < 1$, the stability criterion becomes

$$\frac{|A| \sqrt{a}}{4} < \left(\frac{1}{4, \xi_n} \right).$$

An expansion in the inverse powers of $|A|$ is considered (small viscosity), and the importance of the temperature factor is demonstrated. Orig. art. has: 22 equations.

ASSOCIATION: Gosudarstvennyy universitet im. N. G. Chernyshevskogo g. Saratov
(Saratov State University)

SUBMITTED: 26Jun63

SUB CODE: ME

NO REF SOV: 001

ENCL: 00

OTHER: 000

Cond 3/3

L 16042-66 EWT(1)/ETC(m)-6 WW

ACC NR: AP6004435

SOURCE CODE: UR/0414/65/000/003/0075/0082

AUTHOR: Aslanov, S. K. (Odessa)

ORG: none

TITLE: Instability criterion of slow combustion of gas mixtures

SOURCE: Fizika goreniya i vzryva, no. 3, 1965, 75-82

TOPIC TAGS: combustion instability, combustion, gas combustion

ABSTRACT: The combustion stability of a slow-burning premixed flame was analyzed. It was assumed that the flat flame front is perturbed by a small perturbation which affects the gas dynamic structure of the flame and generates acoustic oscillations in unburned and burned gases. The combustion zone was assumed to consist of 1) a heating and diffusion zone in which practically no chemical reaction takes place and the gas is heated only by heat transfer from the combustion products and 2) a zone where the chemical reaction takes place. The following criterion was derived:

$$\frac{\lambda}{L} > \frac{2\pi}{\ln \frac{q}{q-1}}$$

Card 1/2

UDC: 536.46

L 15042-66

ACC NR: AP6004435

where λ is the wave length of the perturbation, L is the length of the combustion zone,

$$q = 1 + \frac{a-1}{b} (1 - e^{-a}), \quad 1 < q < a;$$

b is constant and $a = v_2/v_1$ (v_2 = velocity of combustion products; v_1 = velocity of fresh gas). For instance, in the case $a = 6$, combustion would be stable in the range of $10 < \lambda/L < 25$. A decrease in the flame intensity increases the length of the combustion zone and decreases the perturbation wave length and thus has a stabilizing effect. The mixture composition can have a similar effect. Orig. art. has: 16 formulas and 1 figure.

[PV]

SUB CODE: 21/ SUBM DATE: 20Apr65/ ORIG REF: 006/ ATD PRESS: 4202

Card

FW
2/2

L 59493-65 EPA/ENP(m)/EPF(c)/KPR/EJA(b)/EWT(1)/EWT(m)/EJA(c)/PCS(k)/EJA(d)/ENP(f)
 Pd-1/Pi-1/Pr-1/PS-1/Pt-1/Paa-1 WH/JH
 ACCESSION NR: AP5019434

UR/0020/65/163/003/0567/0070

AUTHOR: Aslanov, S. K.

TITLE: Criterion for the stability of a Chapman-Jouguet detonation in a gas

SOURCE: AN SSSR. Doklady, v. 163, no. 3, 1965, 667-670

TOPIC TAGS: detonation, combustion stability, detonation stability, combustion, supersonic combustion, gas detonation

ABSTRACT: Based on K. I. Shchelkin's detonation wave model, which assumes a steady shock wave to be followed at a given distance by a reaction front, the perturbed linearized conservation equations were formulated with the pressure, velocity and entropy as the main variables. Solution for a Chapman-Jouguet regime yielded the following criterion for stability with respect to small perturbations:

$$m \frac{q_2 M_2^2 (a_2 - 1)}{(a_2 + 1)(q_2 - 1)} \geq 1,$$

where

$$m = x_1 Q + (x_2 - 1) N_2, \quad Q = \frac{\partial \ln f}{\partial \ln p} \bigg|_{p=p_1, T=T_1}$$

Card 1/2

L 59193-65

ACCESSION NR: AP5019434

κ_1 = specific heat ratio;

q_2 is given by

$$N = \frac{\partial \ln f}{\partial \ln T} \left| \frac{p=p_1}{T=T_1} \right|$$

$f(p, T)$ = chemical reaction rate;

$$\alpha_2 q_2 = 2 + (\kappa_2 + 1)(\alpha_1 - 1), \quad \alpha_2 = \frac{\rho_1}{\rho_2};$$

M_1 = Mach number; and ρ = density. Subscripts 1 and 2 refer to states after compression by the shock wave and combustion, respectively. Orig. art. has: 9 formulas. [PV]

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N. G. Chernyshevskogo (Saratov State University)

SUBMITTED: 02Nov64

ENCL: 00

SUB CODE: ME

NO REF SOV: 004

OTHER: 001

ATD PRESS: 4053

Cord

KC
2/2

L 23326-66 EWT(1)/EWP(m)/EWT(m)/EWA(d)/T/EWA(h)/EWA(1) NW/JN/JWD/NE
ACC NR: AP6011791

SOURCE CODE: UR/0147/66/000/001/0108/0114

AUTHOR: Aslanov, S. K.

ORG: none

TITLE: Instability criterion for developed deflagration and an analogy of the combustion process in a detonation wave and a rocket motor

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 1, 1966, 108-114

TOPIC TAGS: propulsion, combustion instability, rocket motor, detonation

ABSTRACT: (11, 55, 44) Based on the previously found analogy between instability in a rocket motor and in a detonation wave (Denisov, Yu. N., Troshin, Ya. K., Shchelkin, K. I. Izv. AN SSSR. OTN "Energetika i avtomatika," No. 6, 79, 1959.), an analysis was made of combustion instability with respect to small perturbations. It was assumed that the combustible mixture is compressible and that combustion takes place in the induction regime which usually prevails in rocket motors. The thruster was schematically divided into two sections: 1) where the mixture is formed, and 2) where combustion takes place and the thrust is generated. The principal mechanism involved in the combustion process was assumed to be successive ignition but other mechanisms such as turbulent frontal combustion are not excluded in the model. The shortwave perturbations, imposed on the flame and generated by chemical nonuniformities, propagate upstream of the

Card 1/2

UDC: 536.46

L 23326-65

ACC NR: AP6011791

combustion zone in the form of acoustic oscillations and downstream in the form of vortex-entropy waves. The analysis yielded the following two instability criteria:

$$\frac{mM_1^2(\alpha-1)}{(M_1+1)\left(1-\frac{\alpha}{q}\right)} > 1, \quad q = 2 + (\kappa_2 + 1)(\alpha - 1),$$

$$\frac{2}{1 + \sqrt{\frac{\kappa_2}{\kappa_1}}} \frac{\kappa_1 - 1}{\kappa_1} \frac{E}{RT_1} \frac{\Delta P}{P_1} > 1.$$

where M_1 is the Mach number in zone 1; $\alpha = V_1/V_2$, velocity ratio in zones 1 and 2; κ , isentropic exponent in zone 2; E , activation energy; T_1 , temperature of cold gas; P_1 , pressure upstream of combustion zone; and ΔP is the pressure drop due to combustion. The general significance of the criteria is briefly discussed. Orig. art. has: 1 Fig-ure and 23 formulas. [PV]

SUB CODE: 21/ SUBM DATE: 01Mar65/ ORIG REF: 007/ ATD PRESS: 4232

Card 2/2 ✓

L 44026-66 EWT(m)/T WW/JW/WE

ACC NR: AP6029758

(A)

SOURCE CODE: UR/0414/66/000/002/0072/0076

AUTHOR: Aslanov, S. K. (Odessa)

ORG: none

TITLE: Study of the stability of slow combustion of a viscous gas mixture

SOURCE: Fizika goreniya i vzryva, no. 2, 1966, 72-76

TOPIC TAGS: combustion, combustion instability, gas combustion, *COMBUSTION GAS DYNAMICS*

ABSTRACT: In a previous study by the author (FGV, 1965, 3) the stability of slow deflagration with respect to small perturbations was analyzed for the case of interaction with the flame. The perturbation wave length causing the greatest degree of instability obtained from this stability criterion was found to be too low when compared with the experimental results. This discrepancy is attributed to the fact that the effect of viscosity was neglected in the derivation. In the present study, viscosity was taken into account, and it was found that it has a stabilizing effect which is in contrast to the findings of G. Einbinder (Voprosy raketnoy tekhniki, 1954, 2). With decreasing perturbation wave length, the stabilizing effect of viscosity becomes more pronounced. The analysis yielded the relationship $\lambda/L = 400$ (where λ = perturbation wave length, L = thickness of flame) expressing the maximum unstable wave length. This is in agreement with previous experimental data. When viscosity

Card 1/2

UDC: 536.46

L 38779-66 EWP(m)/DWT(L)/DWT(m)/T WJ/JW/WE

ACC NR: AP6026797

(A)

SOURCE CODE: UR/0198/66/002/007/0138/0141

AUTHOR: Aslanov, S. K. (Odessa)

ORG: Odessa State University (Odesskiy gosudarstveniy universitet)

TITLE: Study of the stability of a detonation front in a gas mixture

SOURCE: Prikladnaya mekhanika, v. 2, no. 7, 1966, 138-141.

TOPIC TAGS: detonation, combustion, detonation stability

ABSTRACT: The stability of a flat steady-state detonation wave in an ideal gas was analyzed under the assumption that the chemical reaction takes place instantaneously, and that the detonation wave is a discontinuity with energy inflow. The perturbation was assumed to have an exponential form. The following criterion was derived:

$$M_1^2 < \frac{2x_2}{x_1 \alpha (1 - \alpha) (x_2 + 1)} \left[\sqrt{x_2^2 (1 - \alpha) + \alpha} + x_2 (1 - \alpha) - \alpha \right],$$

where M_1 is the Mach number before the detonation front, α is the ratio of the velocities before and after the detonation wave, and κ the specific heat ratios before

Card 1/2

L 38779-66

ACC NR: AP6026797

and after the detonation wave. According to this criterion, the detonation is stable only when it is overcompressed and $M_1 < 3.6$. Since $M_1 \sim 5$ for a normal Chapman-Jouguet detonation, the wave is not stable with respect to the exponential perturbations. The stability conditions for the real case when the detonation wave is not a simple discontinuity are also discussed. Orig. art. has: 8 formulas. [PV]

SUB CODE: 21/ SUBM DATE: 22Mar66/ ORIG REF: 005/ OTH REF: 002/ ATD PRESS: 5051

Card 2/2

L 28363-66 EWP(m)/EPF(n)-2/ENT(1)/ENT(m)/ETC(m)-6/T/EWA(d) WY/TW/TWD/WF

ACC NR: AP6016480

SOURCE CODE: UR/0021/66/000/005/0576/0579

AUTHOR: Aslanov, S. K.

ORG: Odessa State University (Odess'skyderzhavnyy universytet)

TITLE: Theory of hydrodynamic stability of a normal flame

SOURCE: AN UkrRSR. Dopovid, no. 5, 1966, 576-579

TOPIC TAGS: combustion stability, viscous gas mixture, combustion theory

ABSTRACT: To determine the effect of viscosity on flame stability, the combustion characteristics of a viscous gas mixture in the presence of small hydrodynamic perturbations were analyzed on the basis of previously published theories (S. K.

Aslanov, Fizika goreniya i vzryva, 3, 75 (1965); L. G. Loitsyanskiy, Mekhanika zhidkosti i gaza, GIFML, 1959). Contrary to G. Einbinder's conclusion (G. Einbinder, Voprosy rakotnoy tekhniki, IL, 2, 111, 1954) that viscosity has a destabilizing effect, the present analysis concludes that the viscosity of the gas mixture has a stabilizing effect on the flame. Values of the length of the perturbation wave in the flame calculated by the derived equations are close to published experimental values (Ya. K. Troshin, K. I. Shchelkin. Izv. AN SSSR, OTN, 9, 160, 1959). Orig. art. has: 5 formulas. [PS]

SUB CODE: 21/ SUBM DATE: 01Jun65/ ORIG REF: 005/ OTH REF: 002/ ATT PRESS: 4262

Card 1/1 CC

L 40156-66 EWT(1)/ENP(m)/ENT(m)/T NH/JW/JED

ACC NR: AP6026296

SOURCE CODE: UR/0021/66/000/007/0871/0874

AUTHOR: Aslanov, S. K.

60
B

ORG: Odessa State University (Odes'kyi derzhavnyi universytet)

TITLE: One-dimensional instability criterion of a gaseous detonation

SOURCE: AN UkrRSR. Dopovidi, no. 7, 1966, 871-874

TOPIC TAGS: detonation stability, gas detonation, detonation criterion ,
DETONATION WAVE, IDEAL GAS, PERTURBATION

ABSTRACT: The proposed criterion of one-dimensional instability of a detonation wave in an ideal gas with respect to small perturbations was derived theoretically on the basis of the Zel'dovich-Neiman detonation model. Orig. art. has: 6 formulas. [PS]

SUB CODE: 19/ SUBM DATE: 03Jun65/ ORIG REF: 005/ ATD PRESS: 5049

Card 1/1/11/11/11

L 20745-66 EWT(1)/EWT(m)/ETC(m)-6/1/EWP(f) WW/JW/JWD/WE
ACC NR: AP601003 SOURCE CODE: UR/0170/66/010/003/0382/0384

AUTHOR: Aslanov, S. K.

ORG: State university im. I. I. Mechnikov, Odessa (Gosudarstvennyy universitet)

TITLE: Calculation of the wavelength of flames in oscillatory combustion in tubes

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 10, no. 3, 1966, 382-384

TOPIC TAGS: combustion, combustion instability, gas combustion

ABSTRACT: The oscillatory combustion mechanism previously proposed by the author is based on the interaction between the natural oscillations of the gas column and the oscillations generated by the hydrodynamic instability of the flame front. Based on resonance considerations, the following formula was derived for the perturbation wavelength:

$$\lambda = v_1 \cos \alpha / \omega_n$$

where v_1 is the burning velocity in the axial direction, α is the mean inclination angle between the flame surface and the tube axis, and ω_n is the natural oscillation frequency. However, the experimental values

Card 1/2

UDC: 536.46

L 20745-65

ACC NR: AP6010037

obtained with CO-air mixtures were about three times higher than those predicted by the above formulas. In the present study, it is pointed out that this discrepancy may be attributed to the fact that the mean flame speed was taken relative to the tube and not to the fresh gas. Allowing for this fact, the following formula was derived for the perturbation wavelength:

$$\lambda = \frac{v_1 \cos \alpha}{\omega_n} \left[1 + \left(\frac{T_2}{T_1} - 1 \right) \frac{\epsilon - 1}{\epsilon} \right]$$

where T_1 and T_2 are the temperatures of the fresh gas and the combustion products, respectively. Values calculated by this formula agreed within 20-25% with experimental values. Orig. art. has: 5 formulas. [PV]

SUB CODE: 21/ SUBM DATE: 24Jun65/ ORIG REF: 003/ ATD PRESS: 4224

Card 2/2

L 36858-66 EWP(m)/EWT(1) WW

ACC NR: AP6024414

SOURCE CODE: UR/0020/66/169/001/0136/0138

AUTHOR: Aslanov, S. K.

ORG: Odessa State University im. I. I. Mechnikov (Odesskiy gosudarstvennyy universitet)

TITLE: A study of the stability of a detonation front in a gas mixture by the Chapman-Jouget model

SOURCE: AN SSSR. Doklady, v. 169, no. 1, 1966, 136-138

TOPIC TAGS: detonation, combustion, detonation wave, detonation stability, gas detonation

ABSTRACT: An analysis was made of the stability of a normal, steady-state detonation wave in an ideal gas. It was assumed that the chemical reaction takes place instantaneously, and that the wave is a discontinuity with inflow of energy due to the change in the chemical composition. The analysis yielded the following criterion:

$$\kappa_2 M_1^2 < \frac{2\kappa_2}{\kappa_2 - 1} (\sqrt{2\kappa_2 + 1}).$$

where κ_2 is the specific heat ratio behind the detonation wave, and

Card 1/2

UDC: 534.222.2

L 36858-66

ACC NR: AP6024414

M_1 is the Mach number of the incident flow. From this criterion, it follows that, e.g., in a diatomic gas, the wave is unstable when it is overcompressed and $M_1 < 3.6$. In Chapman-Jouget detonations, $M = 5$. Therefore, for the considered model absolute stability of the detonation wave does not exist, but the occurrence of neutral oscillations seems possible. Orig. art. has: 14 formulas. [PV]

SUB CODE: 21/ SUBM DATE: 30Mar65/ ORIG REF: 002/ ATD PRESS: 5040

Cord 2/2

L 00401-67 EWP(1)/EWP(π) WN
ACC NR: A16024388

SOURCE CODE: UR/0020/66/169/002/0303/0305

AUTHOR: Aslanov, S. K.; Sodov, L. I. (Academician)

ORG: Odessa State University im. I. I. Mechnikov (Odesskiy gosudarstvennyy universitet)

TITLE: Investigation of the stability of shock waves in arbitrary media

SOURCE: AN SSSR. Doklady, v. 169, no. 2, 1966, 303-305

TOPIC TAGS: shock wave propagation, perturbation

ABSTRACT: As a result of the fulfillment of the linear boundary conditions for turbulent breakaway, and of the momentum and energy components, incorporated in the law of continuity of the mass flows, the following characteristic equation has been obtained

$$2 \frac{\omega v}{v_0} \left(k^2 + \frac{\omega^2}{v^2} \right) = \left(\frac{\omega^2}{v v_0} + k^2 \right) (\omega - l_1 v) (\mu + 1), \quad (2)$$

where $\mu = \rho_0^2 v_0^2 (\partial V / \partial p)_H$, $V = 1/\rho$, and the subscript H denotes differentiation along the adiabatic curve of the shock wave. In further previously published work, Equation (2) was transformed by the introduction of the new variables

$$l_1 = \frac{\Omega}{c} \cos \vartheta, \quad k = \frac{\Omega}{c} \sin \vartheta, \quad \Omega^2 = c^2 (k^2 + l_1^2) \quad (3)$$

Card 1/2

UDC: 534.222.2

L 09421-67

ACC NR: AP6024388

where Ω is the frequency of sound in a system of coordinates connected with the substance behind the shock wave. The remainder of the article consists of an extended mathematical treatment of the problem, starting from the above bases. It is demonstrated that the presence of dissipative factors of viscosity and heat conductivity in a real gas leads to damping of the perturbations, as a result of which, in practice there is always stability of the shock waves in a gaseous medium. Orig. art. has: 11 formulas.

SUB CODE: 20/ SUBM DATE: 28Oct65/ ORIG REF: 003

Cord 2/2

L 44164-66 EWT(d)/ESS-2/EWT(m)/EMP(w)/EMP(f)/EMP(y)/T/EMP(k) LJE(c) TT/WW/TW/
ACC NR: AP6030255 EM/WE SOURCE CODE: UR/0147/66/000/003/0085/0088

AUTHOR: Aslanov, S. K.

ORG: none

TITLE: Stability criterion of an arbitrary deflagration regime in the combustion chamber of a rocket motor with successive fuel self ignition

SOURCE: IVUZ. ²⁴Aviatsionnaya tekhnika, no. 3, 1966, 85-88

TOPIC TAGS: rocket, propulsion, propellant, combustion, combustion stability

ABSTRACT: Based on a previous analysis by the author (Kriteriy neustoychivosti razvitoi deflagratsii i analogiya protsessu sgoraniya v detonatsionnoy volne i v raketnom dvigatele. IVUZ, "Aviatsionnaya tekhnika," No. 1, 1966.), the following criterion was derived for combustion stability in a liquid rocket engine:

$$M_1 > M_{1cr} = \frac{1 + \sqrt{a \frac{x_1}{x_2}}}{(a-1)m}$$

Card 1/2

UDC: 536.46

L 14164-66

ACC NR: AP6030255

where M_1 is the Mach number of the fuel-oxidizer gas mixture; M_{1cr} is the critical Mach number of the gas mixture; γ_1, γ_2 are the specific heat ratios of the fresh gas mixture and combustion products, respectively; and α is the gas velocity ratio. As an example, calculations were made for gasoline based on heptane parameters. The value of M_{1cr} for gasoline was found to be 0.12. Since under real conditions in a rocket motor M_1 is larger than 0.12, internal stability of the combustion regime would be ensured. Orig. Art. has: 6 formulas. [PV]

SUB CODE: 21/ SUBM DATE: 29May65/ ORIG REF: 002/ ATD PRESS: 5072

LD
Card 2/2

L 04058-67 EMP(m)/EWT(1)

ACC NR: AP6024326

SOURCE CODE: UR/0021/66/000/004/0423/0426

AUTHOR: Aslanov, S. K.

ORG: Odessa State University (Odes'kyy derzhavnyy universytet)

TITLE: On the stability of shock waves in arbitrary media

SOURCE: AN UkrRSR. Dopovid, no. 4, 1966, 423-426

TOPIC TAGS: shock wave analysis, shock wave stability, wave equation

ABSTRACT: The stability of a shock wave of relatively small perturbations of the exponential type is investigated and it is found that for a perfect gas the doubtful case occurs. This problem has previously been studied for a plane stationary shock wave in an arbitrary medium and the direct density jump was investigated (S. P. D'yakov, ZhETF, 36, v. 3(9), 287 (1954)). The author extends the study of D'yakov and develops equation describing shock-wave behavior under various conditions. The most interesting result is that the shock wave in an ideal gas is described precisely by the equation which characterizes the statement of the problem as entirely incorrect. Nevertheless, taking into consideration the dissipating effect of viscosity in an impact-compressed gas, wave stability may be established even here. The paper was presented by Yu. O. Mitropol's'kyi, Academician of the AN UkrSSR. Orig. art. has: 17 formulas.

SUB CODE: 12,20/ SUBM DATE: 31May65/ ORIG REF: 004

Card 1/1 KH

57
B

L 07943-67 EWT(d)/EWT(1)/EWP(m) IJP(c) WW

ACC NR: AP6030794

SOURCE CODE: UR/0376/66/002/008/1115/1122

AUTHOR: Aslanov, S. K.

ORG: Odessa State University im. I. I. Mochnikov (Odesskiy gosudarstvennyy universitet) 45
B

TITLE: Stability of a discontinuous solution of a gas dynamics equation

SOURCE: Differentsial'nyye uravneniya, v. 2, no. 8, 1966, 1115-1122

TOPIC TAGS: flow stability, fluid dynamics, perturbation theory, *GAS DYNAMICS*

ABSTRACT: The author is interested in the internal stability of the simple jump of the discontinuous solution

$$\begin{aligned} p &= p_j, \quad \rho = \rho_j, \quad S = S_j, \quad v_x = v_j, \quad v_y = 0, \\ j &= 0 \text{ for } x < 0 \text{ and } j = 1 \text{ for } x > 0. \end{aligned} \quad (1)$$

of the fluid dynamics equation

$$\frac{\partial v}{\partial t} + (v \nabla) v = - \frac{1}{\rho} \nabla p, \quad \frac{\partial \rho}{\partial t} + \operatorname{div} \rho v = 0, \quad \frac{\partial S}{\partial t} + v \nabla S = 0, \quad (2)$$

Card 1/2

UDC: 517.945.6:534.222.2

L 07943-67

ACC NR: AP6030794

where p is pressure, ρ is density, S is entropy, v is velocity. The solution (1) is shown to be stable relative to small perturbations. Orig. art. has: 24 formulas.

SUB CODE: 12/ SUBM DATE: 25Sep65/ ORIG REF: 004

Card 2/2 *egh*

ACCESSION: A10033537

SOURCE CODE: 01/0170/00/011/004/0472/0470

AUTHOR: Aslanov, S. K.

ORG: State University, Odessa (Gosudarstvennyy universitet)

TITLE: The theory of flame stability

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 11, no. 4, 1966, 472-478

TOPIC TAGS: combustion, combustion instability, premixed flame, laminar combustion, flame stabilization

ABSTRACT: An analysis was made of the stability of normal combustion of a premixed gas with respect to small hydrodynamic perturbations. Based on the linearized Navier-Stokes equation and a relationship derived previously by the author for the interaction of the flame zone of finite thickness and the hydrodynamic perturbation, equations were derived which indicate that viscosity has a stabilizing effect on normal combustion. This finding is in contrast to Einbinder's theoretical result which predicted a destabilizing effect of viscosity. Evaluation of the maximum unstable perturbation wave length λ_{max} for oxygen mixtures yielded a value of $\lambda_{max}/L = 0.7 \cdot 10^3$ (where L is the flame thickness) which was found to be in reasonable agreement with previous ex-

Card 1/2

UDC: 536.46

1 03501-67

ACC NR: AP6033537

perimental values obtained with spherical flames. Orig. art. has:
12 Formulas and 1 figure. [WA No. 68]

SUB CODE: 21/ SUBM DATE: 21Jun66/ ORIG REF: 007

ASLANOV, S.M.; ISMAYILOV, H.M.

Effect of soil drought and higher temperature on nitrogen
metabolism in the nightshade. Izv. AN Azerb. SSR. Ser. Biol.
nauk no.2:19-27 '64.

(MIRA 17:10)

CH

14

Physicochemical characterization of Khan Lake. V. P. Blidin and S. M. Aslanov. *Zhur. Priklad. Khim.* (J. Applied Chem.) 29, 228-31 (1956).--The lake, situated near the town of Eisk, is of the sulfate type of marine origin. The main components of the water-inorg. salt system are sulfates of Ca, Mg, Na, and NaCl. The th-lines of evapn. diagram of NaCl-MgSO₄-Na₂SO₄-MgCl₂ system originate at NaCl origin; this indicates that NaCl ppts. after gypsum up to the point of copptn. with the sulfates. Cooling curves of the water indicate possibility of isolation of Na₂SO₄ after removal of NaCl. G. M. Kosolapoff

15.12.1977, 5.11.11

Polymorphism of the ternary system $\text{H}_2\text{O}-\text{H}_3\text{PO}_4-\text{CO}(\text{NH}_2)_2$ (water, Y. P. Blizn, A. V. Melnikova, and S. M. Asanov, *Tr. Fiz. Khim. Akad. Nauk SSSR*, 53, 65-67, 1977).
 The phase diagram of the $\text{H}_2\text{O}-\text{H}_3\text{PO}_4-\text{CO}(\text{NH}_2)_2$ system was determined in the temperature range from -10 to -30°C by the following method: first, through the apex H_3PO_4 and the $\text{CO}(\text{NH}_2)_2$ (melting point -40 and 50°C), and then, passing through the apex $\text{CO}(\text{NH}_2)_2$ and cutting the apex H_3PO_4 by the lines 15.5 , 17.5 , and 19.5°C . In the latter case, the amount of $\text{CO}(\text{NH}_2)_2$ increased, but homogeneous solutions were not formed corresponding to the composition $\text{H}_2\text{O}-\text{H}_3\text{PO}_4$. In the branch to right, with ice decreased as the content of H_3PO_4 increased, branches in equilibrium with H_2O were absent. The opposite occurred in the plane through the H_3PO_4 apex: the branches in equilibrium with ice moved in the plane with 10 and 60% $\text{CO}(\text{NH}_2)_2$ in equilibrium with solid phases. In all planes, the branches in equilibrium with solid phases increased with the temp. In the ternary diagram the field of ice projected sharply toward H_3PO_4 , into the field of $\text{CO}(\text{NH}_2)_2$, and, to a lesser degree, toward the field of solid phases. A ternary eutectic was located at -15.5°C (cont. H_3PO_4 , 19.2 , $\text{CO}(\text{NH}_2)_2$, 34.4 , and H_2O , 46.5%). Polymorphic differences between α -, β -, γ -forms in the presence of H_3PO_4 were not noted.

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AUTHORS:

Blidin, V. P., Aslanov, S. M.

SOV/78-4-3-30/34

TITLE:

The Polythermal Line of the Ternary System $\text{LiCl-SrCl}_2\text{-H}_2\text{O}$
(Politerma troynoy sistemy $\text{LiCl-SrCl}_2\text{-H}_2\text{O}$)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 3,
pp 688-691 (USSR)

ABSTRACT:

The polythermal line of the ternary system $\text{LiCl-SrCl}_2\text{-H}_2\text{O}$ was investigated by the visual-thermal method in the temperature range $-68.5^\circ - 50^\circ$. As initial substances twice recrystallized pure salts were used. In order to be able to plot the polythermal diagrams ten internal sections were investigated. The solubility diagram consists of five crystallization ranges: ice, $\text{SrCl}_2 \cdot 6\text{H}_2\text{O}$, $\text{LiCl} \cdot 5\text{H}_2\text{O}$, $\text{LiCl} \cdot 3\text{H}_2\text{O}$, and $\text{LiCl} \cdot 2\text{H}_2\text{O}$. No chemical compounds and solid solutions were found in the systems. It was confirmed that lithium chloride acts as an agent of dehydration of strontium chloride. There are 2 figures, 5 tables, and 7 references, 3 of which are Soviet.

Card 1/2

The Polythermal Line of the Ternary System
LiCl-SrCl₂-H₂O

SOV/78-4-3-30/34

SUBMITTED: July 17, 1957

Card 2/2

5(2), 5(4)

SOV/78-4-7-34/44

AUTHORS:

Aslanov, S. M.; Blidin, V. P.

TITLE:

The Solubility Isothermal Line of the System $\text{LiCl} - \text{HgCl}_2 - \text{H}_2\text{O}$
at 0° (Izoterma rastvorimosti v sisteme $\text{LiCl} - \text{HgCl}_2 - \text{H}_2\text{O}$
pri 0°)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 7,
pp 1661-1662 (USSR)

ABSTRACT:

References 1-4 mention the inclination of HgCl_2 to form well-crystallizing double salts or complexes with other metal chlorides. For the purpose of checking this reaction more closely, the system mentioned was investigated at 0° . The results obtained are given by figure 1 and table 1. The following solid phases were found: $\text{LiCl} \cdot 2\text{H}_2\text{O}$, $\text{LiCl} \cdot \text{HgCl}_2 \cdot 4\text{H}_2\text{O}$ and HgCl_2 . There are 1 figure, 1 table, and 5 references, 3 of which are Soviet.

ASSOCIATION:

Rostovskiy-na-Donu institut sel'khoz mashinostroyeniya (Rostov-na-Donu Institute for Agricultural Machine Construction)

SUBMITTED:

April 25, 1958

Card 1/1

5.4120

88599

S/078/60/005/011/014/025
E015/B060

AUTHORS: Aslanov, S. M., Blidin, V. P.

TITLE: Solubility Polythermal Line of the $\text{LiCl} - \text{CaCl}_2 - \text{H}_2\text{O}$ SystemPERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 11,
pp. 2534-2538

TEXT: In connection with the use of salt solutions for antifreeze liquids for piston engines and refrigeration, the authors studied the solubility polythermal line of the $\text{LiCl} - \text{CaCl}_2 - \text{H}_2\text{O}$ system from $+25^\circ\text{C}$ to the freezing point at -78°C . The visual-polythermal method was used for this purpose. Investigations in this field had already been conducted by N. K. Voskresenskaya and O. K. Yanat'yeva (Ref. 1), as well as I. G. Druzhinin and A. I. Shepelev (Ref. 10). In the present case, the method used for the investigation was based on a determination of the temperature of the appearance of the first and the disappearance of the last crystals. 10 cross sections (Figs. 1-3, Table 1, general characteristics of the cross sections) had to be examined, and the diagram of the

Card 1/2

Solubility Polythermal Line of the
LiCl - CaCl₂ - H₂O System

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B015/B060

solubility polythermal line (Fig. 4) had to be drawn prior to constructing the solubility diagram. Five crystallization fields are formed in the system: ice; LiCl·5H₂O; LiCl·3H₂O; LiCl·2H₂O; and CaCl₂·6H₂O. No double salts are formed between the components. Five ternary nonvariant points exist in the ternary system, and their characteristics are reproduced in Table 2. Ice, CaCl₂·6H₂O, and LiCl·5H₂O are absent in the ternary eutectic point at -78°C and a composition of 17% LiCl, 12.3% CaCl₂, and 70.7% H₂O. At low temperatures calcium chloride (like the alkali chlorides and other chlorides of bivalent metals) is salted out from the solution by lithium chloride. A paper by A. V. Novoselova is mentioned. There are 4 figures, 2 tables, and 12 references: 6 Soviet, 3 German, 2 British, and 1 US. X

SUBMITTED: July 22, 1958

Card 2/2

ASLANOV, S.M.

Effect of different temperature and moisture on the growth and
development of the nightshade solanum aviculare. Izv.AN Azerb.
SSR.Ser.biol.i med.nauk no.4:3-10 '62. (MIRA 15:12)
(AZERBAIJAN--NIGHTSHADE--WATER REQUIREMENTS)
(PLANTS, EFFECT OF TEMPERATURE ON)

ASLANOV, S. M.

Polytherm of the solubility in the system $\text{LiCl} - \text{HgCl}_2 - \text{H}_2\text{O}$. Zhur., neorg. khim. 8 no.6:1489-1494 Je '63. (MIRA 16:6)

(Lithium chloride)
(Mercury chlorides)
(Solubility)

ZAKHARCHENKO, M.A.; ASLANOV, S.M.

Ternary system consisting of the chlorides of lithium,
sodium, and barium. Zhur. neorg. khim. 8 no.6:1532-1534
Je '63. (MIRA 16:6)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo
mashinostroyeniya, kafedra obshchey khimii.
(Alkali metal chlorides)
(Barium chloride)

ZAKHARCHENKO, M.A.; BELOGORSKAYA, N.V.; ASLANOV, S.M.

Cross section of the quaternary reciprocal system consisting of the
fluorides and chlorides of lithium, potassium, and calcium. Zhur.neorg.
khim. 9 no.1:173-177 Ja '64. (MIRA 17:2)

ASLANOV, S. R.

ASLANOV, S. R.: "The agrobiological properties and number of varieties of unabh' in Azerbaydzhan". Baku, 1955. Min Higher Education USSR. Azerbaydzhan State U imeni S. M. Kirov. (Dissertations for the degree of Candidate of Biological Science.)

SO: Knizhnaya Letopis' No. 50 10 December 1955. Moscow.

USSR/Cultivated Plants - Subtropical. Tropical.

M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15852

Author : S. Aslanov

Inst :

Title : Jujube Tree Reproduction.
(Razmnozheniye unabi).

Orig Pub : Sots. s. kh. Azerbaydzhana, 1956, No 12, 23-24.

Abstract : Jujube pits germinate well after stratification for 100-120 days at 12-15°. The inoculation of the seedlings takes on quite well. The features in the development of one year old jujubes is described.

Card 1/1

USSR / Cultivated Plants. Subtropical and Tropical M-8
Plants.

Abs Jour: Ref Zhur-Biol., 1958, No 16, 73218.

Author : Aslanov, S. R.

Inst : AS Azerbaydzhan SSR.

Title : On the Biological and Agricultural Characteristics
of the Cultivation of Zizyphus L.

Orig Pub: Me'ruzeler AzerbSSR Elmler Akademiyasy, Dokl. AN
AzerbSSR, 1956, 12, No 2, 117-122.

Abstract: In Azerbaydzhan, vegetation of Zizyphus L. begins
in the middle of April with an average daily temperature
of about 12.4°. Establishment of flowering buds occurs under
the base of the leaf. Flowering begins in the first half of
June; the majority of flowers are abortive. Zizyphus L. is a
self-pollinating plant. Of the flowers that open 7.4-

Card 1/2

USSR/Cultivated Plants. Subtropical. Tropical.

M-8

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20546.

Author : S.R. Aslanov

Inst : Not given.

Title : The Jujube in Azerbaydzhan. (Unabi v Azerbaydzhan).

Orig Pub: AzerbSSR elimler Akad. xeberleri, Izv. AN AzerbSSR, 1957,
No 2, 79-91.

Abstract: Unripe jujube fruit contains 596.56 mg% of vitamin C, and the leaves 409.08 mg%. The sugar content in dried fruit is 65-71.77%, and 36.47% in the raw ripe fruit. The jujube has been cultivated in Azerbaydzhan for a very long while, withstands frost, drought, salt well and is not exacting about soil conditions. Information on research concerning this crop is given for the different rayons of Azerbaydzhan. The trees attain 12 meters in height, 60 cm in dia-

Card : 1/2

ASLANOV, S.R.

Selecting pomegranate varieties for juice [in Azerbaijani with
summary in Russian]. Dokl. AN Azerb.SSR 14 no.9:711-715 '58.
(Azerbaijan--Pomegranate) (MIRA 11:10)

ASLANOV, S.R.

Establishing the possibility of pistachio culture under conditions of
dry farming at the foot of the Lesser Caucasus. Izv. AN Azerb.
SSR. Ser. biol. i med. nauk no.6:37-42 '61. (MIRA 14:8)
(AZERBAIJAN--PISTACHIO)

CHACON, J.S.; PEROTA, M.; DE ALMEIDA, A.

Multiple cutaneous perforations in collagen neoplasms of certain
 localization. Vop. onk. 11 no. 3: 23-25, 1975.

(MIRA 18:8)

1. In korodach "ostigodachni" (dof. - "ostigod 1.1. Spahov) Aserajg-
dzibanskij, "ostigodachni" "ostigodachni" "ostigodachni" "ostigodachni" "ostigodachni"
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"ostigodachni" "ostigodachni" "ostigodachni" "ostigodachni" "ostigodachni")

NADZHAKOV, N.G., kand. med. nauk; AGAYEV, B.A., kand. med. nauk; SUKHININA, M.G.,
kand. med. nauk; ASLANOV, T.T., nauchnyy sotrudnik

Diagnosis and treatment of gastric phytobezoars. Azerb. med. zhur.
42 no.2:41-47 F '65. (MIRA 18:7)

1. Iz Azerbaydzhanskogo nauchno-issledovatel'skogo instituta
rentgenoradiologii (dir. - doktor med. nauk M.M. Alikishibekov).

SHAKOV, I.I., dotsent; SHTUSS, A.A., dotsent; ASLANOV, T.T., nauchnyy
sotrudnik

X-ray diagnosis of pericardial cysts. Azerb. med. zhur. 42 no.
10: 33-38 O '65 (MIRA 19:1)

1. Iz Instituta usovershenstvovaniya vrachey (rektor - kand.
med. nauk B.M. Agayev) i Instituta rentgenologii, radiologii i
onkologii Ministerstva zdravookhraneniya Azerbaydzhanskoy
SSR (direktor - doktor med. nauk M.M. Alikishibekov). Submitted
November 26, 1964.

ASLANOV, V., inzh.; EPSHTEYN, B., kand.tekhn.nauk

Useful manual for engineers and technicians. Mias.ind.SSSR 31
no.3:58 '60. (MIRA 13:9)

(Meat industry)

ASLANOV, V., inzh.

Good manual for workers and students ("Manual for the rendering of animal fats" by S.G. Liberman, V.P. Petrovskii. Reviewed by V. Aslanov). Mias. ind. SSSR 31 no.4:54 '60. (MIRA 14:7)

(Oils and fats)
(Liberman, S.G.)
(Petrovskii, V.P.)

ASLANOV, V.; OCHKIN, V.

"Technology of meat and meat products" by A.A. Sokolov, and others. Reviewed by V. Aslanov and V. Ochkin. Mias. ind. SSSR 32 no.4:51-52 '61. (MIRA 14:9)

1. Moskovskiy myasokombinat (for Aslanov). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti (for Ochkin).

(Meat industry) (Sokolov, A.A.) (Favlov, D.V.)
(Bol'shakov, A.S.) (Zhuravskaia, N.K.)
(Shopenskii, A.P.)

LIBERMAN, S.; PETROVSKIY, V.; ASLANOV, V.; ZHIZHNEVSKIY, V.

Expeller installation for rendering fat in operation. Mias.ind.
SSSR 26 no.4:28-31 '55. (MLRA 8:10)
(Rendering apparatus)

ANFIMOV, A.N.; SHKUNDINA, R.M.; FALSYEV, G.A., retsenzent; ASLANOV, Y.G.,
retsenzent; AKIMOVA, L.D., redaktor; GOTLIB, B.M., tekhnicheskij
redaktor

[The slaughter and butchering of cattle] Uboi skota i razdelka tush.
Moskva, Pishchepromizdat, 1956. 119 p. (MLRA 10:2)
(Slaughtering and slaughterhouses)

PAL'MIN, V.V.; TETERNIK, D.M.; AVSYUKEVICH, V.S.; ASLANOV, V.G.; GOL'DMAN,
Ye.I.; ZEL'MANOV, I.S.; STEFANOV, A.V.; KHOLODNova, O.S.

Studying the possibility of applying preslaughter adrenal treatment
in the meat industry. Izv.vys.ucheb.zav.; pishch.tekh. no.1:66-71.
'63. (MIRA 16:3)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy
promyshlennosti i Moskovskiy myasokombinat.
(Adrenalin) (Slaughtering and slaughterhouses)

CHIRYATNIKOV, Veniamin Ivanovich; BUYANOVA, Anna Stepanovna;
ASLANOV, V.G., retsenzents; KORBUT, L.V., red.;
ZARSHCHIKOVA, L.N., tekhn. red.

[Stuffing and tying of sausage] Shpritsevanie i viazka
kolbas. Moskva, Pishchepromizdat, 1963. 46 p.
(MIRA 16:10)

(Sausages)

GAYEVCOY, Yevgeniy Vasil'yevich; SINITSYN, Konstantin Dmitriyevich;
ASLANOV, V.G., retsenzent; GORIOVOY, D.V., retsenzent;
"TETTERSON", A.L., red.

[Technology of leather and fur raw materials] Tekhnologiya kozhevennogo i mekhevoogo syr'ia. Moskva, Pishchevaia promyshlennost', 1964. 459 p. (MIRA 18:3)

BABAKINA, V.G.; METELKIN, A.I.; SUCHKOV, V.G.; GAYEVOY, Ye.V.; ASLANOV, V.G.

Method of raw leather preservation; Soviet Certificate of Inventions
No.141575. Kozh.-obuv.prom. 4 no.8:42 Ag '62. (MIRA 15:8)
(Leather industry--Technological innovations)

ASLANOV, Ya.G.

Possibility of dermatoplasty following excision of cancerous
tumors. Vop.onk. 5 no.10:462-466 '59. (MIRA 13:12)
(SKIN GRAFTING) (SKIN--CANCER)

L 100772-00

DATE: 07/20/1966

(A)

SOURCE CODE: UR/0191/66/000/008/0012/0015

AUTHOR: Akhmedzade, D. A.; Yasnopol'skiy, V. D.; Govorkova, Ye. N.; Magerranova, A.D.;
Mamedova, D. A.; Aslanova, A. A.; Shabanov, A. L.; Kerimova, M.M.

ORG: none

TITLE: Organophosphorus stabilizers for polypropylene

SOURCE: Plasticheskiye massy, no. 8, 1966, 12-15

TOPIC TAGS: organic phosphorus compound, polypropylene plastic, chemical stabilizer

ABSTRACT: Thirteen different organophosphorus compounds were synthesized and tested as stabilizers of thermal and light aging of polypropylene. All were found to be better as thermostabilizers, except one, which was also effective against light aging. Analysis of the data from the standpoint of the structure of the compounds tested indicates that organophosphorus stabilizers for polypropylene should be prepared from alkyl phenols rather than esters of salicylic acid. Because of natural aging, in air after the action of the stabilizer has ceased, the mechanical strength of polypropylene decreases; in this connection, the effect of the same stabilizers on secondary polypropylene was studied, and a slight diminution of the effectiveness of the stabilizer was observed. It is shown that by suitably selecting the stabilizer and its concentration, one can effectively improve the aging properties of secondary polypropylene. The organophosphorus compounds act not only as stabilizers, but in some cases also promote

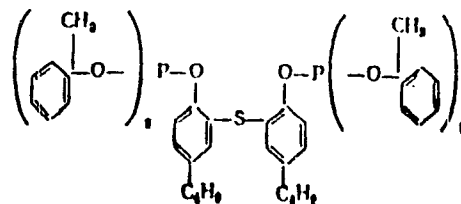
Card 1/2

UDC: 678.742.3:678.048.9

L 40593-50

ACC NR: AP6027273

cross-linking in the polymer. The most effective stabilizer has the formula



Orig. art. has: 2 tables.

SUB CODE: 07,11/ SUBM DATE: none/ ORIG REF: 002

Card 2/2

ASLANOVA, A.M.

Course and management of labor in cases of cord encirclement.
Akush. i gin. 33 no.1:39-40 Ja-F '57 (MLRA 10:4)

1. Iz Nauchno-issledovatel'skogo instituta akusherstva i
ginekologii (dir. L.G. Stepanov) Ministerstva zdravookhraneniya SSSR.
(DELIVERY, compl.

cord encirclement, management) (Rus)
(UMBILICAL CORD

encirclement, management during delivery) (Rus)

DOMOGATSKAYA, Ye.A.; ASLANOVA, E.S.

"Measurement units and designations of physical and technical quantities." Handbook for workers of publishing houses and authors. Izv.AN SSSR.Mekh. i mashinostr. no.5:208 S-O '63. (MIRA 16:12)

ASLANOVA, G.D.; ZATRUTINA, R.F.; RUBINA, L.S.; SOKOLOVA, V.A.;
SILKIN, B.I., otv. red.; BEREZOVA, A.S., red.

[Bibliography of the literature in Russian published in
1961] Bibliograficheskii ukazatel' literatury na russkom
iazyke za 1961 g. Moskva, Izd-vo AN SSSR 1963. 146 p.
(MIRA 17:4)

1. Akademiya nauk SSSR. Mezhdudedomstvennyy komitet po pro-
vedeniyu Mezhdunarodnogo geofizicheskogo goda.

SKIPIN, G.V.; ANTONOVA, A.A.; ASLANOVA, I.F.; VINNIK, R.L.

Physiological nature of the so-called spontaneous food movements in dogs. Trudy Inst.vys.nerv.deiat. Ser.fiziol. 1:27-36 '55. (MLR 9:8)

1. Iz laboratorii dvigatel'nykh uslovykh reflektov, zaveduyushchiy
G.V.Skipin.
(CONDITIONED RESPONSE)

ASLANOVA, I. F., Cand Med Sci -- (diss) "On the problem of physiological mechanisms forming the basis of changes of ~~the~~ magnitude of conditioned nutritional secretory-motor reflexes *under continuous with food portions* ~~during increase of basic diet by~~ *of varying* ~~meals of different~~ weights." Mos, 1958. 14 pp (Inst of Higher Nervous Activity, Acad Sci USSR), 120 copies (KL, 17-58, 111)

-73-

ASLANOVA, I.P.

Effect of the different durations of activity of the food center on the excitation of cells of the motor analyzer [with summary in English]. Zhur.vys.nerv.deiat. 8 no.1:83-89 Ja-F '58. (MIRA 11:3)

1. Institut vysshey nervnoy deyatel'nosti AN SSSR, Moskva.
(REFLEX, CONDITIONED,
eff. of duration of funct. cond. of food center on
irritability of motor analyzer centers (Rus)

ASLANOVA, I.F.

Motor activity between signals in dogs as a function of food reinforcement. Trudy Inst. vys. nerv. deiat. Ser. fiziol. 3:196-204 "59.

1. Iz laboratorii dvigatel'nykh uslovnnykh re'leksov, zav. - G.V. Skipin.

(MOVEMENT, PSYCHOLOGY OF) (CONDITIONED RESPONSE)

ASLANOVA, I.F.

Role of a supplementary signal in the formation of a conditioned motor defensive reaction in dogs. Report No. 1. Trudy Inst. vys. nerv. deiat. Ser. fiziol. 5:171-177 '60. (MIRA 13:10)

1. Iz Laboratorii dvigatel'nykh uslovnykh refleksov (zav. - G.V. Skipin) instituta vysshey nervnoy deyatel'nosti.
(CONDITIONED RESPONSE)

ASLANOVA, I.F.

Effect of changes in the quantity of food reinforcement on the strength of conditioned secretory-motor reflexes. Trudy Inst. vyzn. nerv. deiat. Ser. fiziol. 6:103-111 '61. (MIRA 14:12)

1. Iz Laboratorii dvigatel'nykh uslovnykh refleksov, zav. - G.V. Skipin.

(CONDITIONED RESPONSE)